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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/998,845 | 11/15/2001 | Jason F. Hunzinger | 09752-103001 | 6903 |
| 27572 | 7590 | 03/22/2006 | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. | | | WONG, WARNER | |
| P.O. BOX 828 | | | ART UNIT | |
| BLOOMFIELD HILLS, MI 48303 | | | PAPER NUMBER | |
| | | | 2616 | |

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/998,845 | HUNZINGER, JASON F. | |
| | Examiner | Art Unit | |
| | Warner Wong | 2668 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 6, 7, 10-13, 16, 17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hughes (6,718,170).

Regarding claims 1 and 11, Hughes describes a method for the remote unit processor (col.1, line 63) of adjusting a search-processing load for a wireless device, comprising:

measuring the frequency/how often in which a single reference sector is searched (fig. 6, #94 and col. 8, lines 40-41, where the search rate (frequency) for a multipath search between a remote unit and a base station (single reference sector) is determined (measured));

determining if the frequency in which the single reference sector is searched is greater than a predetermined limit (fig. 6, #110, col. 9, lines 4-9, where the search rate (frequency) for a multipath connection to the base station (single reference sector) is evaluated/determined if greater than a (predetermined) limit);

reducing the search processing load when the frequency in which a reference sector is searched is greater than the predetermined limit (fig. 6, #112 and col. 9, lines

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9-10, where the searching by the processor is reduced when the search rate is greater than the (predetermined) rate limit).

Regarding claims 2 and 12, Hughes describes pausing [the single reference sector] pilot search process for a predetermined time period to reduce the (microprocessor) search processing load (col. 6, lines 4-6, where delays/pauses are added to the multipath pilot searching between a remote unit and a base station (single reference sector)).

Regarding claims 3 and 13, Hughes describes adjusting a set of search parameters for a search of the single reference sector to lower the search-processing load (col. 8, lines 27-28, where search parameters increase search execution time (processing load) to the multipath pilot searching between a remote unit and a base station (single reference sector)).

Regarding claims 6 and 16, Hughes describes the increase of search processing load for a search of the single reference sector when the frequency in which the single reference sector is searched is below (than) the predetermined limit (fig. 6, #114, and col. 9, lines 11-12, where searching by the processor of the best multipath signal from a base station (single reference sector) is increased when the search rate is lower/below the (predetermined) rate limit).

Regarding claims 7 and 17, Hughes describes that the search-processing method is for selecting the single reference sector (col. 3, lines 8-14 & col. 4, lines 18-23, where the search engine of the remote unit microprocessor evaluates & selects the best multipath to/from the base station (single reference sector)).

Regarding claims 10 and 20, Hughes describes the (re)-selecting the single reference sector continuously (including the time following a handoff) (col. 4, lines 21-22, where the multipath searching is performed on continuously (re-selecting) for the single (preferred) base station).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of New (6,625,467).

Regarding claims 4 and 14, Hughes describes all limitations as set forth in claims 1 and 11.

Hughes lacks what New describes of searching one of (a plurality of subsets of) secondary sectors (neighboring base stations) each time the single reference sector (preferred base station) is searched (fig. 5, #510).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the search method of Hughes to search secondary sectors per search iteration as of New. The examiner declares that the secondary/neighbor list is well known and is used for providing candidates to be the reference sector. It would be advantageous to search the secondary sectors as often (each time) as searching for the

reference sector, thus maximizing the best candidates to be selected as the reference sector.

Regarding claims 5 and 15, Hughes and New describes all limitations as set forth in claims 4 and 14.

Hughes lacks what New describes of selecting (evaluating) another/different (one of a plurality of subsets of) secondary sectors (neighboring base stations) with single reference sector (preferred base station) search (fig. 5, #510).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the search method of Hughes to search secondary sectors per search iteration as of New. The examiner declares that the secondary/neighbor list is well known and is used for providing candidates to be the reference sector. It would be advantageous to search the secondary sectors as often (each time) as searching for the reference sector, thus maximizing the best candidates to be selected as the reference sector.

5. **Claims 8 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of New and Storm ((5,889,768).

Hughes describes all limitations as set forth in claims 7 and 17.

Hughes lack what New explicitly describes: the single reference sector is selected from a group consisting of the earliest received signal and strongest received signal (col. 3, lines 27-29, "the criteria to select base stations for the reacquisition search list may be based on the base station timing as well as the measured signal

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strength"; col. 3, lines 39-40, "based on the earliest of the preferred and neighboring base stations in the list"; and col. 2, lines 2-3, "Typically, the preferred base station is the base station that has the strongest pilot signal").

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the search method of Hughes to search for a reference sector based on earliest or strongest received signal. Using the strongest signal or the earliest signal is well-known in the art, also as stated "Typically, the preferred base station is the base station that has the strongest pilot signal as measured by the remote unit", (New, col. 2, lines 2-3). The motivation is to provide the best reference sector "so that the mobile station does not miss any pages and, consequently, not miss any calls" (Storm, col. 1, lines 64-66).

Hughes and New combined lack what Storm explicitly describes, "reference sector is selected from a group consisting of the most reliable signal" (col. 27-31, "pilot channel acquisition is performed in a reliable manner by utilizing finger receivers to track .. and provide reliable pilot signal strength measurements of the neighbor pilots and the active pilot.")

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference sector search method of Hughes and New to use the reliable signal criteria as per Storm. Using the reliability of the signal is well-known in the art. The motivation is to provide the best reference sector "so that the mobile station does not miss any pages and, consequently, not miss any calls." (Storm, col. 1, lines 64-66)

6. **Claims 9 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes ('170) in view of Hughes (6,704,577).

Hughes ('170) describes all limitations as set forth in claims 1 and 11.

Hughes (170) lacks what Hughes ('577) describes, "adjusting the predetermined limit based on historical information" (col. 10, lines 61-64, "search parameters may be modified based on previous search results").

It would have been obvious to one of ordinary skill in the art at the time of invention to reduce the search-processing load of Hughes by adjusting the search limit/parameters using historical information. The motivation is to "minimize power consumption in a remote unit in the idle state and thereby increase battery life" (Hughes '577, col. 5, lines 2-3) by reducing the search processing load.

Response to Arguments

7. Applicant's arguments filed on January 18, 2006 with amended claims have been fully considered but they are not persuasive.

On page 6, lines 17-21 and page 7, lines 1-3, the applicant indicates that the reference of Hughes is referring to multiple signal offsets from multiple base stations and does not distinguish between them for controlling the loading. As a result, claims 1-20 can be overcome. The examiner respectfully disagrees.

Amidst multiple base stations (multiple pilots) exist, the reference of Hughes is an improvement of the search rate of a multipath pilot search between one mobile and one

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(distinguished) base station (definition of multipath is one source & one destination) as elaborately explained throughout his prior art, particularly on col. 3, lines 20-22 and col. 6, lines 18-23: "the search engine, as described above, is to aid in maintaining the wireless link between the remote unit and a base station. Because the wireless channel is constantly changing, multipath path searching must be performed on a virtually continuous basis, otherwise the wireless link may be lost."

Hence, claims 1-20 are rejectable using the reference of Hughes (and other references for dependent claims as noted in the office action) regarding the amended claims limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 5:30AM - 2:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Warner Wong
Examiner
Art Unit 2668

WW


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER